

PHILIP S. GREEN
Application No.: 08/709,930
Page 2

PATENT

1 145. A system for allowing a surgeon to control a surgical instrument that is
2 inserted through an incision of a patient, wherein a pivot point is disposed at the incision,
3 comprising:

4 a manipulator arm holding the surgical instrument, the arm having a driven joint
5 and an actuator for spinning the surgical instrument;

6 a first input device for receiving an input command from the surgeon; and

7 a computer for receiving said input command, for computing a movement of
8 said arm based on said input command, for providing an output command to actuate said
9 driven joint and said actuator, and for moving the surgical instrument about the pivot point.

10 146. The system of claim 145, wherein the surgical instrument has an
11 elongate shaft, a wrist joint, and an end effector, the shaft having a proximal end adjacent the
12 mechanism, the wrist pivotably coupling a distal end of the shaft to the end effector, wherein
13 the computer moves the end effector by pivoting the forearm about the pivot point and by
14 pivoting of the wrist within the patient.--

REMARKS

Claims 144-146 have been added. Claim 144 corresponds exactly to claim 11 of U.S. Patent 5,907,664 (the '664 patent), which issued to Wang et al. on May 25, 1999. Claim 145 substantially corresponds to claim 11 of the '664 patent, while claim 146 adds additional elements further supporting patentability of the present application.

Applicant respectfully requests that an interference be declared under 37 C.F.R. §1.607 between the present application and the '664 patent.

The present application, U.S. patent application serial No. 08/709,930, filed on September 9, 1996, is a continuation of U.S. patent application Serial No. 07/823,932, filed on January 21, 1992. The '664 patent issued from Application No. 08/613,866, which was filed on March 11, 1996; which was a continuation of Application No. 72,982, filed June 3, 1993 (which issued as Patent No. 5,524,180); which was a continuation-in-part of Application No. 5,604, filed on January 19, 1993 (now abandoned); which was a continuation-in-part of

PHILIP S. GREEN
Application No.: 08/709,930
Page 3

PATENT

Application No. 927,801 filed Aug 10, 1992 (now abandoned)¹. Therefore, applicant believes that applicant would be senior party in any interference proceedings.

Under M.P.E.P. §2307 and 37 C.F.R. §1.607, applicant requests this interference be declared between the present application and the unexpired '664 patent, and has satisfied each requirement of 37 C.F.R. §1.607 as follows:

(1) The unexpired patent is U.S. patent No. 5,907,664, which issued to Wang et al. on May 25, 1999.

(2) The Proposed Count is as follows:

Count 1

(i) A system a surgeon to control a surgical instrument that is inserted through an incision of a patient, wherein the incision defines a pivot point, comprising:

an articulate arm having an end effector for holding the surgical instrument, an active joint for moving said end effector, and an actuator for spinning the surgical instrument;

a first input device for receiving an input command from the surgeon; and

a controller for receiving said input command, for computing a movement of said articulate arm based on said input command, for providing an output command to actuate said active joint and said actuator, and for moving the surgical instrument about the pivot point;

OR

(ii) A system for allowing a surgeon to control a surgical instrument that is inserted through an incision of a patient, wherein a pivot point is disposed at the incision, comprising:

a manipulator arm holding the surgical instrument, the arm having a driven joint and an actuator for spinning the surgical instrument;

¹ Applicant does not admit that application Serial No. 927,801, nor any of the underlying applications, supports either the Proposed Count or the claims of the '664 patent.

PHILIP S. GREEN
Application No.: 08/709,930
Page 4

PATENT

a first input device for receiving an input command from the surgeon; and

a computer for receiving said input command, for computing a movement of said arm based on said input command, for providing an output command to actuate said driven joint and said actuator, and for moving the surgical instrument about the pivot point.

Proposed Count 1 is a phantom count and has for its first part (i) claim 11 (the broadest claim) of the '664 patent; and for its second part (ii) claim 145 of the present application, a claim substantially corresponding to claim 11 of the '664 patent. As is required under 37 C.F.R. §1.606, the Proposed Count is not narrower in scope than any patent claim or pending application claim designated to correspond to the count.

- (3) It is respectfully submitted that all claims (1-24) of the '664 patent correspond to the Proposed Count. Claim 11 of the '664 patent corresponds exactly to the Proposed Count. Claims 1-10 and 12-24 of the '664 patent correspond substantially to the Proposed Count, since each would have been obvious in view of the Proposed Count.
- (4) It is respectfully submitted that claims 144-146 of the present application correspond to the Proposed Count.
- (5) Support for claims 144-146 is found throughout the specification as originally filed in parent application 07/823,932, specifically, examples of support in the parent application are as tabulated below.

Claim 144 (Claim 11 of the '664 Patent)	Support in Parent Application 07/823,932
A system for allowing a surgeon to control a surgical instrument that is inserted through an incision of a patient, wherein the incision defines a pivot point, comprising:	Page 13, lines 1-5 and page 18, lines 3-8 explain that Figs. 7-11 illustrate teleoperator systems in which a surgeon controls a surgical instrument that is inserted through an incision, the incision defining a pivot point 176.

PHILIP S. GREEN
 Application No.: 08/709,930
 Page 5

PATENT

Claim 144 (Claim 11 of the '664 Patent)	Support in Parent Application 07/823,932
an articulate arm having an end effector for holding the surgical instrument, an active joint for moving said end effector, and an actuator for spinning the surgical instrument;	Articulate manipulator arms 100, 142 hold surgical instruments 114, 170 as illustrated in Figs. 7 and 11. Arm 142 has active joints for moving the surgical instrument, for example, about pivot 176 as illustrated by arrows 152M, 154M in Fig. 11. As disclosed on page 17, line 27-34 and page 18, lines 17-26, motors 188 include an actuator which spins forearm 174 about its longitudinal axis in the direction of arrow 158M.
a first input device for receiving an input command from the surgeon; and	Controller 140 is an input device for receiving commands from a surgeon, as described on page 18, lines 27-32.
a controller for receiving said input command, for computing a movement of said articulate arm based on said input command, for providing an output command to actuate said active joint and said actuator, and for moving the surgical instrument about the pivot point	Computer 42 computes movement of the manipulator arm 34 based on the commands from the input device (sent via controller interface 80) and provides output commands (via manipulator interface 44) to actuate the motors and actuators of the manipulator arm so that the instrument moves about the pivot point 176.

Claim 145	Support in Parent Application 07/823,932
A system for allowing a surgeon to control a surgical instrument that is inserted through an incision of a patient, wherein a pivot point is disposed at the incision, comprising:	Page 13, lines 1-5 and page 18, lines 3-8 explain that Figs. 7-11 illustrate teleoperator systems in which a surgeon controls a surgical instrument that is inserted through an incision, the incision disposed at pivot point 176.

PHILIP S. GREEN
 Application No.: 08/709,930
 Page 6

PATENT

Claim 145	Support in Parent Application 07/823,932
a manipulator arm holding the surgical instrument, the arm having a driven joint and an actuator for spinning the surgical instrument;	Articulate manipulator arms 100, 142 hold surgical instruments 114, 170 as illustrated in Figs. 7 and 11. Arm 142 has active joints for moving the surgical instrument, for example, about pivot 176 as illustrated by arrows 152M, 154M in Fig. 11. As disclosed on page 17, line 27-34 and page 18, lines 17-26, motors 188 include an actuator which spins forearm 174 about its longitudinal axis in the direction of arrow 158M.
a first input device for receiving an input command from the surgeon; and	Controller 140 is an input device for receiving commands from a surgeon, as described on page 18, lines 27-32.
a computer for receiving said input command, for computing a movement of said arm based on said input command, for providing an output command to actuate said driven joint and said actuator, and for moving the surgical instrument about the pivot point.	Computer 42 computes movement of the manipulator arm 34 based on the commands from the input device (sent via controller interface 80) and provides output commands (via manipulator interface 44) to actuate the motors and actuators of the manipulator arm so that the instrument moves about pivot point 176.

Claim 146	Support in Parent Application 07/823,932
The system of claim 145, wherein the surgical instrument has an elongate shaft, a wrist joint, and an end effector, the shaft having a proximal end adjacent the mechanism, the wrist pivotably coupling a distal end of the shaft to the end effector, wherein the computer moves the end effector by pivoting the forearm about the pivot point and by pivoting of the wrist within the patient.	As illustrated in Fig. 11 and described on page 17, lines 15-26, end effector 170 moves in part by pivoting forearm 174 about insertion point 176, and in part by pivoting the end effector about wrist 172.

PHILIP S. GREEN
Application No.: 08/709,930
Page 7

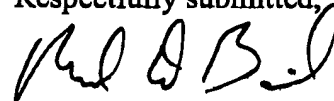
PATENT

- (6) The requirements of 35 U.S.C. §135(b) are met because the '664 patent was issued on May 25, 1999, which is less than one year before the filing date of this Supplementary Preliminary Amendment (July 14, 1999) which adds claims 144-146 to the above-referenced application.

CONCLUSION

In view of the above, applicant believes that no new matter has been introduced. Applicant respectfully requests that the Examiner declare an interference with the '664 patent, and furthermore, requests that the examination of the present application be conducted with special dispatch, per 37 C.F.R. §1.607(b).

Respectfully submitted,



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